The Hong Kong University of Science and Technology

UG Course Syllabus Template

Course Title: THERMODYNAMICS

Course Code: MECH 2310 L2

No. of Credits: 3 units

Pre-requisites: MATH 1012 or MATH 1013 or MATH 1020 or MATH 1023

Instructor: Prof. Lin FU (Office 2606A, Email linfu@ust.hk)

Office hour: Monday – 16:30 - 17:50 (Rm 2606A)

Teaching Assistants: Mr. Zeyu ZHANG (Email zzhangix@connect.ust.hk)
Mr. Shiyi LU (Email slubd@connect.ust.hk)

Course Description:

Fundamental Concepts; Pure substance; Work and heat; Control volume; Ideal and real gases; First and second laws of thermodynamics; Entropy; Elementary power and refrigeration cycles.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)
Final examination	50%
Mid-Term	35%
Homework	15%

Required Texts and Materials:

Y.A. Cengel and M.A. Boles, Thermodynamics – An Engineering Approach, 8th Edition in SI Units, McGraw Hill, 2015. (Presentation Materials can be downloaded from the Learning Management and Evaluation System web site: https://canvas.ust.hk)

Classrooms and Time Slots:

Lecture: Tuesday – 09:00AM - 10:20AM (Rm 2404, Lift 17-18)
Thursday – 09:00AM - 10:20AM (Rm 2404, Lift 17-18)
Tutorial: Monday – 11:00AM - 11:50AM (Rm 1014, LSK Bldg)

Schedule: (Times are subject to change)

Week 1: Introduction - Some basic concepts
Week 2: Introduction - Energy Analysis
Week 3: Introduction - Energy Analysis
Week 4: Properties of Pure Substance
Week 5: Properties of Pure Substance
Week 6: Work and heat
Week 7: First law of thermodynamics
Week 8: First law of thermodynamics and Mid Term Exam
Week 9: Second law of thermodynamics
Week 10: Second law of thermodynamics
Week 11: Entropy
Week 12: Entropy and more on Irreversibility
Week 13: Review